AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for reducing amyloid plaque burden in a mammal comprising effecting presentation to said mammal's immune system of an immunogenically effective amount of said mammal's autologous Aβ or autologous APP wherein is introduced at least one isolated foreign T helper epitope by means of insertion, addition, deletion, or substitution, or by means of separate coupling to a polyhydroxypolymer carrier backbone of said foreign T helper epitope wherein said foreign T helper epitope is selected from a group consisting of Tetanus toxoid epitope, a diphtheria toxoid epitope, an influenzae virus hemagluttinin epitope, a *P.falciparum* CS epitopde and an artificial ~~MCH~~MHC-II binding peptide sequence; and an Aβ or APP derived peptide sequence wherein said sequence is selected from the group consisting of amino acids 700-714 of SEQ ID NO:2 and amino acids 672-714 of SEQ ID NO:2, whereby immunization of said mammal with said analogue induces production of antibodies against the autologous Aβ or autologous APP in said mammal.

2. (Cancelled)

3. (Currently Amended) The method according to claim 1, wherein the introduction ~~results in the preservation of a substantial fraction of B-cell epitopes in the Aβ or APP and wherein~~further comprises:

- at least one first moiety which is a specific binding partner, selected from the group consisting of a hapten and a carbohydrate, for a B-lymphocyte specific surface antigen or an antigen presenting cell (APC) specific surface antigen, which ~~introduced which effects targeting~~ targets ~~of~~ the analogue to an antigen presenting cell (APC) or a B-lymphocyte,

- at least one second moiety selected from the group consisting of a cytokine, heat shock protein or hormone, ~~is~~ which~~introduced~~, ~~which~~ stimulates the immune system, and/or

- at least one third moiety selected from the group consisting of a lipid and a polyhydroxypolymer, which ~~when introduced which~~ optimizes presentation of the

analogue to the immune system.

4. (Previously Presented) The method according to claim 3, wherein the analogue is modified by introducing side groups, by covalent or non-covalent binding to suitable chemical groups in Aβ or APP, or a subsequence thereof, of the first and/or of the second and/or of the third moiety.

5. (Cancelled)

6. (Cancelled)

7. (Previously Presented) The method according to claim 1, wherein introduction of the amino acid substitution, deletion, insertion and/or addition results in a substantial preservation of the overall tertiary structure of Aβ or APP.

8. (Previously Presented) The method according to claim 1, wherein the analogue includes a duplication of at least one B-cell epitope of the amyloidogenic polypeptide and/or an introduction of a hapten.

9. (Currently Amended) The method according to claim 1, wherein the foreign T-cell epitope is immunodominant in the mammal.

10. (Previously Presented) The method according to claim 1, wherein the foreign T-cell epitope is promiscuous.

11. (Cancelled)

12. (Cancelled) The method according to claim 3, wherein the first moiety is selected from a substantially specific binding partner for a B-lymphocyte specific surface antigen and a substantially specific binding partner for an APC specific surface antigen.

13. (Cancelled) The method according to claim 3, wherein the second moiety is selected from a cytokine, a hormone, and a heat-shock protein.

14. (Cancelled) The method according to claim 3, wherein the third moiety is a lipid or wherein the third moiety is a polyhydroxypolymer.

15. (Currently Amended) The method according to claim ~~65~~3, wherein the lipid is a polysaccharide which serves as a carrier backbone to which the Aβ or APP derived peptide sequence and the foreign T cell epitope are separately bound.

16. (Previously Presented) The method according to claim 15, wherein the Aβ or APP derived peptide sequence and the foreign T cell epitope are bound via an amide bond to the polysaccharide.

17. (Previously Presented) The method according to claim 1, wherein the autologous Aβ or APP has been modified so as to preserve B-cell epitopes which are not exposed to the extracellular phase when present in a cell-bound form of the autologous APP.

18. (Previously Presented) The method according to claim 17, wherein the autologous Aβ or APP has been modified so as to lack at least one B-cell epitope which is exposed to the extracellular phase when present in a cell-bound form of the autologous APP.

19. (Previously Presented) The method according to claim 1 which comprises a substitution of at least one amino acid sequence within autologous Aβ or APP with an amino acid sequence of equal or different length which gives rise to a foreign T_H epitope in the analogue.

20. (Cancelled)

21. (Cancelled)

22. (Cancelled)

23. (Cancelled)

24. (Cancelled)

25. (Previously Presented) The method according to claim 1, wherein presentation to the immune system is effected by having at least two copies of the analogue covalently or non-covalently linked to a carrier molecule capable of effecting presentation of multiple copies of antigenic determinants.

26. (Previously Presented) The method according to claim 1, wherein the analogue has been formulated with an adjuvant which facilitates breaking of autotolerance to autoantigens.

27. (Previously Presented) The method according to claim 1, wherein an effective amount of the analogue is administered to the animal via a route selected from the parenteral route; the peritoneal route; the oral route; the buccal route; the sublinqual route; the epidural route; the spinal route; the anal route; and the intracranial route.

28. (Previously Presented) The method according to claim 27, wherein the effective amount is between 0.5 μg and 2,000 μg of the analogue.

29. (Previously Presented) The method according to claim 27, wherein the analogue is contained in a virtual lymph node (VLN) device.

Claims 30-32 (Cancelled)

33. (Previously Presented) The method according to claim 1, which includes at least one administration per year.

Claims 34-58 (Cancelled)

59. (Previously Presented) The method according to claim 10, wherein the foreign T-cell epitope is selected from a natural promiscuous T-cell epitope and an artificial MHC-II binding peptide sequence.

60. (Currently Amended) The method according to claim 1, wherein the tetanus toxoid epitope is selected from the group consisting of ~~(~~SEQ ID NO: 4~~)~~ and ~~(~~SEQ ID NO: 6~~)~~.

61. (Cancelled) The method according to claim 12 wherein the specific binding partner is selected from a group consisting of a hapten and a carbohydrate for which there is a receptor on the B-lymphocyte or the APC.

62. (Currently Amended) The method according to claim ~~13~~3, wherein the cytokine is selected from the group consisting of interferon γ, Flt3L, interleukin 1, interleukin 2, interleukin 4, interleukin 6, interleukin 12, interleukin 13, interleukin 15, and granulocyte-macrophage colony stimulating factor.

63. (Currently Amended) The method according to claim ~~1~~3, wherein the heat shock protein is selected from the group consisting of HSP70, HSP90, HSC70, GRP94, and calreticulin.

64. (Currently Amended) The method according to claim 3~~1~~4, wherein the third moiety is a lipid selected from the group consisting of a palmitoyl group, a myristyl group, a farnesyl group, a geranyl-geranyl group, a GPI-anchor, and an N-acyl diglyceride group.

65. (Currently Amended) The method according to claim ~~14~~3, wherein the polyhydroxypolymer is a polysaccharide.

66. (Previously Presented) The method according to claim 33, comprising at least 2 administrations per year.

67. (Previously Presented) The method according to claim 66, comprising at least 3 administrations per year.

68. (Previously Presented) The method according to claim 27, wherein the parenteral route is selected from the group consisting of the subcutaneous, the intracutaneous, and the intramuscular route.

69. (Previously Presented) The method according to claim 1, wherein the artificial MHC-II binding peptide sequence is the amino acid sequence of SEQ ID NO. 19.

70. (New) A method for reducing amyloid plaque burden in a mammal, the method comprising:

-administering an immunogenically effective amount of at least one modified Aβ or APP polypeptide, wherein said modified Aβ or APP polypeptide differs from the mammal's autologous Aβ or autologous APP polypeptide in that it comprises

(a) at least one isolated foreign T helper epitope selected from the group consisting of a Tetanus toxoid epitope, a diphtheria toxoid epitope, an influenza virus hemagluttinin epitope, a *P.falciparum* CS epitope and an artificial MHC-II binding peptide sequence; and

(b) an Aβ or APP derived peptide sequence separately coupled to a polyhydroxypolymer carrier backbone of said foreign T helper epitope, wherein said sequence is selected from the group consisting of amino acids 700-714 of SEQ ID NO:2 and amino acids 672-714 of SEQ ID NO:2,

whereby administration to said mammal with said modified Aβ or APP polypeptide induces production of antibodies against the autologous Aβ or autologous APP polypeptide in said mammal.

71. (New) A method for reducing amyloid plaque burden in a mammal, the method comprising:

-administering an immunogenically effective amount of at least one modified Aβ or APP polypeptide, wherein said modified Aβ or APP polypeptide differs from the mammal's autologous Aβ or autologous APP polypeptide in that it comprises at least one isolated foreign T helper epitope selected from the group consisting of a Tetanus toxoid epitope, a diphtheria toxoid epitope, an influenza virus hemagluttinin epitope, a *P.falciparum* CS epitope and an artificial MHC-II binding peptide sequence

whereby administration to said mammal with said modified Aβ or APP polypeptide induces production of antibodies against the autologous Aβ or autologous APP polypeptide in said mammal.

72. (New) The method according to claim 70 or claim 71, wherein said modified Aβ or APP polypeptide further comprises:

- at least one first moiety which is a specific binding partner, selected from the group consisting of a hapten and a carbohydrate, for a receptor on a B-lymphocyte or an antigen presenting cell (APC), which targets the modified Aβ or APP polypeptide to an antigen presenting cell (APC) or a B-lymphocyte, and/or

- at least one second moiety selected from the group consisting of a cytokine, heat shock protein or hormone, which stimulates the immune system, and/or

- at least one third moiety selected from the group consisting of a lipid and a polyhydroxypolymer, which optimizes presentation of the modified Aβ or APP polypeptide to the immune system.

73. (New) A method for reducing amyloid plaque burden in a mammal, the method comprising:

-administering an immunogenically effective amount of at least one modified Aβ or APP polypeptide, wherein said modified Aβ or APP polypeptide differs from the mammal's autologous Aβ or autologous APP polypeptide in that it comprises

(a) at least one isolated foreign T helper epitope selected from the group consisting of a Tetanus toxoid epitope, a diphtheria toxoid epitope, an influenza virus hemagluttinin epitope, a *P.falciparum* CS epitope and a pan DR epitope peptide; and

(b) an Aβ or APP derived peptide sequence separately coupled to a polyhydroxypolymer carrier backbone of said foreign T helper epitope, wherein said sequence is selected from the group consisting of amino acids 700-714 of SEQ ID NO:2 and amino acids 672-714 of SEQ ID NO:2,

whereby administration to said mammal with said modified Aβ or APP polypeptide induces pro-

duction of antibodies against the autologous Aβ or autologous APP polypeptide in said mammal.

74. (New) A method for reducing amyloid plaque burden in a mammal, the method comprising:

-administering an immunogenically effective amount of at least one modified Aβ or APP polypeptide, wherein said modified Aβ or APP polypeptide differs from the mammal's autologous Aβ or autologous APP polypeptide in that it comprises at least one isolated foreign T helper epitope selected from the group consisting of a Tetanus toxoid epitope, a diphtheria toxoid epitope, an influenza virus hemagluttinin epitope, a *P.falciparum* CS epitope and a pan DR epitope peptide

whereby administration to said mammal with said modified Aβ or APP polypeptide induces production of antibodies against the autologous Aβ or autologous APP polypeptide in said mammal.

75. (New) The method according to claim 73 or claim 74, wherein the modification further comprises:

- at least one first moiety which is a specific binding partner, selected from the group consisting of a hapten and a carbohydrate, for a receptor on a B-lymphocyte or an antigen presenting cell (APC), which targets the modified Aβ or APP polypeptide to an antigen presenting cell (APC) or a B-lymphocyte, and/or

- at least one second moiety selected from the group consisting of a cytokine, heat shock protein or hormone, which stimulates the immune system, and/or

- at least one third moiety selected from the group consisting of a lipid and a polyhydroxypolymer, which optimizes presentation of the modified Aβ or APP polypeptide to the immune system.

76. (New) A method for reducing amyloid plaque burden in a mammal comprising effecting presentation to said mammal's immune system of an immunogenically effective amount of said mammal's autologous Aβ or autologous APP wherein is introduced at least one isolated foreign

T helper epitope by means of insertion, addition, deletion, or substitution, or by means of separate coupling to a polyhydroxypolymer carrier backbone of said foreign T helper epitope, wherein said foreign T helper epitope is selected from a group consisting of Tetanus toxoid epitope, a diphtheria toxoid epitope, an influenza virus hemagluttinin epitope, a *P.falciparum* CS epitope and a pan DR epitope peptide; and an Aβ or APP derived peptide sequence wherein said sequence is selected from the group consisting of amino acids 700-714 of SEQ ID NO:2 and amino acids 672-714 of SEQ ID NO:2, whereby immunization of said mammal with said analogue induces production of antibodies against the autologous Aβ or autologous APP in said mammal.